PDR RID Report

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Section **Page** **Figure Table**

Category Name Design-MSS **Actionee** HAIS
Sub Category True Cost of Cots
Subject Criteria for selection of COTS products to meet design requirements.

Description of Problem or Suggestion:

When COTS products are used, how is their expected lifetime determined? If a COTS product meets short term need, but not longer term requirements, how is the cost of migration figured (cost both in terms of purchase dollars, conversion effort, user impact)?

Originator's Recommendation

GSFC Response by: **GSFC Response Date**

HAIS Response by: Forman **HAIS Schedule** 2/10/95
HAIS R. E. Forman **HAIS Response Date** 6/28/95

1) When COTS products are used, how is their expected lifetime determined?
First, the ECS system is being designed to be evolutionary, which by its nature provides for a limited lifetime of selected COTS products and some custom software. Much of Releases C and D are allocated to support such evolution, both in COTS and custom software. One consideration relative to the expected lifetime of a COTS product is the degree of dependency of other products/subsystems and the ability to "wrap" the product to minimize impact on other system components. The expected lifetime of a COTS product is dependent upon both the technology which it incorporates and the expected change in system requirements. Evaluations of COTS take into consideration each vendors' track record in terms of such things as dependability, upgrade paths, backward compatibility of upgrades, technology base of existing and announced product releases.

2) If a COTS product meets short term need, but not longer term requirements, how is the cost of migration figured (cost both in terms of purchase dollars, conversion effort, user impact)?
First, it is our object to purchase COTS products which will support ECS long term requirements. In some instances the technology which is required to support the long term ECS requirements is not yet available in a stable product line which would provide ECS with a reliable and maintainable capability. In these situations, interim COTS packages may be selected to support the short term requirements provided there is a viable migration strategy that will move ECS toward the targeted technology at a later time. The viability of a migration strategy is based upon cost, schedule, and user impact involved in replacing the interim solution. The true cost of migration includes the cost of the interim solution, its integration into the ECS baseline, plus the estimated cost of the targeted solution and possible breakage to custom code during the migration to the targeted technology. An example of this is the planned used of CORBA. CORBA an emerging technology is not mature enough to be used in the initial releases of ECS; but is now planned for implementation in release C. DCE and OODCE are being used now to satisfy the current needs of the ECS system. A reasonable LOC reserve is planned to allow for CORBA insertion, some rewrite and code breakage. Also active prototyping is continued to track the maturation of CORBA products. In some cases the decision may be made that the introduction of a feature may be delayed to a later version to avoid the added cost of such migration.

Both hardware and software maintenance costs are factored into the COTS cost baseline. The maintenance costs are based on vendor quotes as well as historical data for similar systems. ECS purchases maintenance contracts for hardware and software COTS. Hardware maintenance includes OEM field upgrades and ensures that hardware operates within the required reliability factor for the length of the ECS contract. Evolutionary upgrades are also planned for later releases. Software maintenance provides automatic releases of the latest OEM software revisions, so that the operating system and application software can be upgraded to the vendor's latest revision level.

Status **Closed** **Date Closed** **7/6/95** **Sponsor** **Bock/Szczur**

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****** Attachment if any ******